SECTION C.1 – PADUCAH ENVIRONMENTAL REMEDIATION STATEMENT OF WORK

Acronyms

AEA	**Atomic Energy Act**
CAAS	Criticality Accident Alarm System
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
D&D	decontamination and decommissioning
DMSAs	Department of Energy Material Storage Areas
DOE	Department of Energy
DUF_6	depleted uranium hexafluoride
ES&H	Environment, Safety and Health
FFA	Federal Facility Agreement
FS	Feasibility Study
FY	fiscal year
HW	hazardous waste
ISMS	Integrated Safety Management System
LLW	low-level waste
LTS	long-term stewardship
µg/kg	**micrograms per kilogram**
µg/l	micrograms per liter
MLLW	mixed low-level waste
MOA	Memorandum of Agreement
NCS	nuclear criticality safety
NEPA	National Environmental Policy Act
NOV	Notice of Violation
NSDD	North/South Diversion Ditch
PCBs	polychlorinated biphenyls
PGDP	Paducah Gaseous Diffusion Plant
PPPO	Portsmouth and Paducah Project Office
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
S&M	surveillance and maintenance
SI/RA	Site Investigation/Remedial Action
SMP	Site Management Plan
STP	Site Treatment Plan
SWMU	solid waste management unit
Tc^{99}	technetium-99
TCE	trichloroethylene
TRU	transuranic
TRUM	transuranic mixed waste
TSCA	Toxic Substances Control Act
UDS	Uranium Disposition Services, LLC
UF_4	uranium tetrafluoride
USEC	United States Enrichment Corporation
USEPA	**United States Environmental Protection Agency**

SECTION C.1 – PADUCAH ENVIRONMENTAL REMEDIATION STATEMENT OF WORK (SOW)

C.1.0 Introduction

The Paducah Gaseous Diffusion Plant (PGDP or Paducah Site) is located on a Federal reservation in Western Kentucky, approximately 10 miles west of Paducah, Kentucky, and 3.5 miles south of the Ohio River. The plant is sited on 3,556 acres divided as follows:

- 748-acres within a fenced security area;
- Approximately 822 acres of uninhabited buffer zone surrounding the plant area; and
- 1,986 acres deeded to the Commonwealth of Kentucky as part of the West Kentucky Wildlife Management Area.

Bordering the Paducah Site to the northeast, between the plant and the Ohio River, is the Tennessee Valley Authority Reservation where the Shawnee Steam Plant is located.

The PGDP is a Government owned uranium enrichment plant that was constructed in the mid 1950's and operated by the Department of Energy (DOE) and its predecessor agencies for the purpose of manufacturing enriched uranium for the fabrication of fuel assemblies to support commercial and military nuclear reactors and to support weapons development activities. The PGDP is still in use and is currently leased and operated by the United States Enrichment Corporation (USEC).

The uranium enrichment program utilizing the gaseous diffusion process resulted in various wastes and contaminants. Waste and contaminants at the site include those regulated under the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act (TSCA), and the Atomic Energy Act (AEA), including construction debris, sanitary waste, hazardous waste (HW), radioactive low-level waste (LLW), mixed low-level Waste (MLLW), transuranic (TRU), and TRU mixed (TRUM) Waste. Many of these wastes were stockpiled or disposed on site, which resulted in the site being placed on the National Priorities List in 1994. The most significant contaminants are technetium-99 (Tc^{99}), polychlorinated biphenyls (PCBs), and trichloroethylene (TCE). The contaminant of greatest concern is TCE. A large number of solid waste management units (SWMUs) are on site. All currently identified and future SWMUs and other facilities must be managed in accordance with all applicable regulations.

C.1.0.1 Contract Purpose and Scope

This is a Cost-Plus-Incentive Fee remediation contract. All work performed under this SOW (including off-site transportation and disposal fees) shall be completed as stated in Section F. This contract reflects the application of performance-based contracting approaches and techniques that emphasize results/outcomes and minimize "how to" performance descriptions. The contractor has the responsibility for total performance under this contract, including determining the specific methods for accomplishing the work. However, the contractor is required to comply with all applicable Federal and State laws and regulations, DOE Directives, permits, and agreements and Orders with the regulators (both State and Federal). The primary objective of this contract is to remediate and disposition specific areas on the site (land sites and groundwater) by removing legacy waste, performing facility decontamination and

decommissioning (D&D), managing DUF_6 cylinders until such work scope is transferred to others under the DUF_6 disposition contract, and operating the site waste storage facilities in accordance with all applicable laws, regulations, DOE Directives, permits, agreements and Orders. Disposition shall be in accordance with the Waste Disposal Strategy of the Site Management Plan.

The following sections describe the scope of work. This includes Groundwater Environmental Actions (C.1.1), Material Disposition (C.1.2), Facilities Disposition (C.1.3), Soils (C.1.4), DUF_6 Cylinder Management (C.1.5), Onsite Disposal Cell Planning (C.1.6), PCB Activities (C.1.7), Environmental Monitoring and Reporting (C.1.8), and Project Support (C.1.9). The resulting milestone dates reflect agreement among DOE and the regulators [i.e., the Commonwealth of Kentucky and the United States Environmental Protection Agency (USEPA)]. While the contractor has the flexibility to implement a project structure and to sequence the work associated with Sections C.1.1 through C.1.9 to optimize the project schedule to achieve safe, cost-effective and accelerated cleanup of the site, the contractor shall meet these regulatory milestone dates. Failure by the contractor to meet a regulatory milestone may result in negative contractor performance rating and further action by the Contracting Officer (CO) as allowed for by the Section B and other provision of this contract up to and including contract termination.

C.1.0.2 General End State Requirements

The following activities including all SOW requirements shall be completed:

a) All major sources of groundwater contamination shall be remediated. Potential sources of groundwater contamination shall be investigated and mitigation strategies identified consistent with CERCLA decisions. (Section C.1.1)

b) All scrap materials and waste shall be dispositioned. The DOE Material Storage Areas (DMSAs) materials shall be characterized, dispositioned, closed as appropriate, and final characterization reports issued. (Section C.1.2)

c) All facilities identified for D&D within this contract shall be demolished or decommissioned. The remaining facilities shall undergo surveillance and maintenance. (Section C.1.3)

d) All areas of soil contamination shall be remediated to the regulatory agreement levels and a Response Action Report provided. All decision and design documents shall be completed and approved, and construction of two sedimentation basins shall be completed if determined to be necessary. (Section C.1.4)

e) Transition the DUF6 cylinder inventory responsibilities to the Uranium Disposition Services, LLC contractor. (Section C.1.5)

C.1.0.3 Contractor Performance and Key Requirements

The contractor shall furnish all personnel, facilities, equipment, material, services and supplies (except as set forth in this contract to be furnished by the Government), and otherwise do all things necessary to accomplish work in a safe, integrated, effective and efficient manner.

The contractor shall be responsible for planning, integrating, managing and executing the programs, projects, operations and other activities as described in this SOW. The contractor shall develop, implement and maintain a comprehensive, resource-loaded baseline as required in Section H.

The contractor shall be responsible for providing general oversight and project management functions to enable the safe operation of the site. In addition, the contractor is responsible for the operations, environment, safety, health and quality assurance within its own organization and its subcontractors.

The contractor shall develop a risk based strategy for ensuring that its technical approach and execution of work is compliant with the applicable statutory and regulatory requirements and shall certify their compliance with environmental requirements. The contractor shall be responsible for all work necessary to obtain regulatory acceptance including comment resolution. The contractor shall recognize and work within the constraints imposed by the contracts and other regulatory agreements between DOE and the Infrastructure Contractor, the USEC, Uranium Disposition Services (UDS), the Commonwealth of Kentucky, and the EPA. Regulatory documents include, but are not limited to, all applicable environmental laws, CERCLA decision documents, and Agreed Orders.

The DOE and the Commonwealth of Kentucky and/or EPA have signed two Agreed Orders dated October 2003 (DWM-31434-042 and DWM-32434-030), establishing the commitment of both parties to promote accelerated cleanup at the Paducah site and to manage the DUF_6 cylinders. The priorities and milestones established in the Agreed Orders are important to DOE, and the contractor shall fully comply with these requirements. Failure by the contractor to meet an Agreed Order milestone may result in negative contractor performance rating and further action by the CO as allowed for by Section B and other provisions of this contract, up to and including contract termination.

The contractor shall comply with the FFA executed February 13, 1998, (DOE/OR/07-1707) and the Site Treatment Plan (BJC/PAD-517), as amended, and its associated documents, schedules and milestones. In addition, the contractor shall meet specific milestones that are outlined in the 2003 Paducah Site Management Plan (DOE/OR/07-1849&D2), and all future amendments. The contractor shall also comply with the Site Treatment Plan Agreed Order (dated 9/10/97; DWM-30039-042), as amended.

The FFA milestones may be modified only by agreement among DOE and the regulators. The contractor shall comply with all site permits, all Commonwealth of Kentucky and Federal requirements, and all compliance documents contained in Section J, Attachment 1.1 (List A).

The applicable milestones, dates and reference documents for the SOW are provided in Exhibit C.1.0.3. The contractor shall comply with all regulatory milestones dates. Milestone dates identified as TBD shall be established during baseline development and throughout the contract term as appropriate and approved by DOE. The contractor shall comply with all TBD dates, as determined, once approved. The DOE approved regulatory milestones will be considered "minimum requirements for specified level of performance" pursuant to Section B.1.7.

C.1.1 Groundwater Environmental Actions

Trichloroethylene (TCE) and Tc^{99} were discovered in residential wells north of the Paducah Site in 1998. DOE, the Commonwealth of Kentucky and the USEPA entered into an Administrative Consent Order (ACO) under Sections 104 and 106 of CERCLA that requires: 1) monitoring residential wells potentially affected by contamination; 2) providing alternative drinking water to residents with contaminated wells; and 3) investigation of the nature and extent of off-site contamination.

The ACO site investigation delineated two off-site groundwater contamination plumes, referred to as the Northwest and Northeast Plumes, and identified several potential on and off-site source areas requiring additional investigation and action. An additional on-site plume has been found to the southwest. In addition, a series of RI/FS were conducted under the FFA, including completing the evaluation of all potential major contaminant sources impacting groundwater and surface water. In accordance with these investigations, DOE implemented interim actions that focused on reducing potential risks associated with off-site contamination.

The three primary areas associated with the groundwater remediation initial response project are: Source Control (C.1.1.1); Plume Containment (C.1.1.2); and Groundwater Site Assessments (C.1.1.3).

C.1.1.1 Source Control

This work scope shall be considered complete following the dismantlement, plugging and abandonment of the selected removal system, and submittal of a Remedial Action Report that is sufficient in quality such that the DOE and the regulators without further modification or correction can approve it.

C.1.1.1.1 General Information

The following have been found to be contributors, or probable contributors, to the contaminants in the Northwest and Northeast Plumes: 1) the C-400 Decontamination Facility (SWMU 11) whose operations have been found to be the major cause of the TCE contamination on site; 2) the C-720 Maintenance Facility; and 3) the Oil Landfarm (SWMU 1), which has provided lesser contributions.

Trichoroetheylene (TCE) and its degradation products have been found in the vadose zone from the surface down to the water table. Concentrations of up to 11,055,000 µg/kg in soil have been found to date. Concentrations of TCE in groundwater range from 2,000 to 890,000 µg/l in the C-400 area. Significant quantities of TCE have been released to the environment, however, the actual amount is not known.

A Treatability Study demonstrating 6-Phase Technology has been conducted at the southeast corner of the C-400 building. The final design for the source removal systems, along with the performance standard, shall be based on the results of the Treatability Study.

C.1.1.1.2 Work to be Performed

The contractor shall perform all activities to:

a) Complete the ongoing CERCLA, RCRA, and NEPA (as applicable) processes, including preparation of all decision documents, for remedy identification and implementation, including installation and operation of a large-scale system to control the TCE source of the Northwest and Northeast Plumes.
b) Design, construct, operate, maintain, dismantle, and remove, the selected source term removal system consistent with the results of the Treatability Study. The cleanup level shall be as stated in the Agreed Order (DWM-31434-042).
c) Restore the construction area to pre-construction conditions.
d) Disposition all removed contaminants.
e) Monitor and report on the remedy.
f) Submit a Remedial Action Report that is sufficient in quality such that the DOE and the regulators can approve it, and assist in obtaining regulatory approval from the regulators.

C.1.1.1.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.1.2 Plume Containment

This work scope shall be considered complete following submittal of a Natural Attenuation Evaluation Report and all CERCLA decision documents, and, if required by the CERCLA decision documents, continue operation of the pump and treat facilities. If the decision document requires shut down of the pump and treat systems, the contractor shall dismantle both pump-and-treat facilities; sample the cooling towers for TCE; and recommend cooling tower cleanup actions as follow-on scope.

C.1.1.2.1 General Information

The Northwest and Northeast Plumes both have TCE. The Northwest Plume also has Tc^{99} contaminants. Interim remedial actions were developed to mitigate and retard the spread of highest concentration of each plume. To implement these interim remedial actions, two pump-and-treat facilities have been installed. The Northwest Interim Record of Decision was signed in 1993, and the Northeast Interim Record of Decision was signed in 1995. Both of these systems are anticipated to be shutdown in fiscal year (FY) 2007. This shutdown is contingent on meeting regulatory requirements.

A preliminary study has been completed on the viability of utilizing natural attenuation as a final remedy.

C.1.1.2.2 Work to be Performed

The contractor shall perform all activities to:

a) Operate the two installed groundwater pump-and-treat facilities as required by the approved operations and maintenance plans to control the high concentrated cores of the Northeast and Northwest Groundwater Plumes until regulatory approval is attained to cease operations.
b) Sample and monitor the plumes, and conduct analyses to determine the effectiveness of and the need for continued operation of the pump-and-treat system.
c) Submit a Natural Attenuation Evaluation Report that includes recommendations for cost savings that is sufficient in quality that the DOE and the regulators can approve it, and actively assist in obtaining regulator approval.
d) Prepare all CERCLA decision documents, including a Record of Decision, consistent with the results of the Natural Attenuation Evaluation Report, and actively assist in obtaining regulatory approval.
e) Renew all License Agreements as required.

C.1.1.2.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.1.3 Groundwater Site Assessment

This work scope shall be considered complete following submittal of a Site Investigation Report, and all CERCLA decision documents for the C-746-S&T Landfills and Southwest Plume, and a Work Plan for performing an RI/FS on the Burial Grounds.

C.1.1.3.1 General Information

The C-746 S&T landfills are closed solid waste and inert landfills, respectively, located outside of the security fence. Groundwater monitoring wells show TCE in the Regional Gravel Aquifer exceeding the maximum contaminant level for TCE of 5 µg/l. However, this could be the leading edge of the Northeast Plume, the Northwest Plume, or the source.

The burial grounds may be contributing sources of TCE contamination to the Southwest and Northwest Plumes. These burial grounds contain various wastes including radiologically contaminated trash (uranium, Tc^{99}, etc.), and excess equipment. The burial grounds at SWMUs 2, 3, 4, 5, 6, 7, 30, and 145 are all capped. An agreement with the regulators has been reached to develop a RI/FS Work Plan.

C-720 has been identified as a potential contributor along with the Oil Landfarm (SWMU 1) and the classified burial grounds (SWMU 4) to the Southwest Plume. A Groundwater Operable Unit (GWOU) FS was developed consistent with the PGDP SMP. The intent of the FS was to evaluate the cost and benefit characteristics of viable alternatives to allow the selection of an appropriate remedy for incorporation into a GWOU Proposed Remedial Action Plan.

C.1.1.3.2 Work to be Performed

The contractor shall in performance of the C-746-S&T Landfill Assessments perform all activities to:

a) Perform the site investigation in accordance with the Site Investigation Work Plan for the C-746-S&T Landfill (DOE/OR/07-2098&D2) to determine the contribution of contaminants from the S&T Landfills to the groundwater plumes.
b) Submit a Site Investigation Report including a proposed Remedial Action Plan, that is sufficient in quality such that it can be approved by the DOE and the regulators and actively assist in obtaining regulatory approval.
c) Prepare all CERCLA decision documents, including a Record of Decision, consistent with the results of the Site Investigation Report that is sufficient in quality such that it can be approved by the DOE and the regulators and actively assist in obtaining regulatory approval.

The contractor shall, in performance of the Southwest Plume and Burial Ground Assessments perform all activities to:

d) Develop a RI/FS Work Plan for the Burial Grounds at SWMUs 12,13,14 and 15.
e) Develop a Site Investigation/Risk Assessment Report on the Southwest Plume and its sources that is sufficient in quality such that it can be approved by the DOE and the regulators and actively assist in obtaining its regulatory approval.
f) Develop a Plan to remediate the Southwest Plume and its sources in accordance with the results of the SI/RA Report that is sufficient in quality such that it can be approved by the DOE and the regulators and actively assist in obtaining its regulatory approval.
g) Prepare all CERCLA decision documents including a Record of Decision to support the selected remedial action that are sufficient in quality such that they can be approved by the DOE and the regulators and actively assist in obtaining regulatory approval.

C.1.1.3.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.2 Material Disposition

The three primary areas associated with the Materials Disposition project are: Scrap Metal (C.1.2.1); DMSAs (C.1.2.2); and Waste Disposition and Waste Facility Operations (C.1.2.3).

C.1.2.1 Scrap Metal

This work scope shall be considered complete following disposition of all identified scrap material and installation of gravel and reseeding within the scrap yards and submittal of Project Completion Report.

C.1.2.1.1 General Information

The DOE has stored an estimated 54,000 tons of scrap metal at various locations at the Paducah Site. This material represents the removed components from numerous process upgrades that took place at the site. The primary contaminants of concern are uranium compounds. Size-reduction and segregation of the general scrap material in the northwest corner of the Paducah Site is ongoing. The C-746-U-Landfill is currently accepting material. No LLW or Hazardous waste can be dispositioned at the C-746-U landfill, as described in the Waste Acceptance Criteria. The scrap yards are categorized as radiological facilities in accordance with 10 CFR 830 and have criticality concerns.

A fixed unit rate subcontract for this (with the exception of disposition of the nickel) is currently in place for this work, which is effective through June 30, 2006.

C.1.2.1.2 Work to be Performed

The contractor shall perform all activities to:

a) Store, characterize, process (including size reduction), package, and ship all scrap material identified in Table C.1.2.1b below to a DOE-approved facility for recycle, storage, treatment or disposal, as applicable in accordance with the Removal Action Work Plan. Scrap material shall be processed and/or packaged to meet disposal or receiver site acceptance criteria as stipulated by the receiver site, including any classified material.
b) Install gravel and reseed within the scrap yards, and submit Project Completion Report.

The following table indicates the various locations and types of scrap metal that are currently located at the Paducah Site to be dispositioned.

Table C.1.2.1a Locations and Types of Scrap Metal to be Dispositioned

Building	Area Name	Type of Material
C-746-C	Contaminated Excess Metal Yard	Large segregated scrap metal pile of mostly nickel-plated steel and deteriorated drums containing metal turnings on pallets.
C-746-C1	Contaminated Excess Metal yard	Aluminum compressor fan blades (potentially volumetrically contaminated) and ordnance shipping braces.
C-746-D	Classified Excess Metal Yard	Nickel-plated steel, aluminum, compressors, and debris.
C-746-E	Contaminated Excess Metal Yard	Converter shells, motor housings, wooden pallets, metal turnings in drums, and vent/duct gaskets potentially containing PCBs.
C-746-E1	Contaminated Excess Metal Yard	Piles of aluminum components and piles of nickel-plated steel from process equipment.
C-746-H4	Nickel Ingot Storage	Nickel ingots, a small amount of aluminum ingots, some aluminum billets, and steel molds from nickel/aluminum smelting processes
C-746-P	East, Regulated yard	Switchgears (mostly clean – steam cleaned), fuel-fired furnace, mounds of wire (potentially containing PCBs and/or asbestos-containing materials), small office trailer, railroad spikes in cans, and miscellaneous piles of scrap.
C-746-P1	Clean Excess Metal	Scrap, drums, drained transformers, and railroad equipment.
C-747-A	UF_4 Drum Mountain	Crushed drums (previously containing UF_4) and autoclaves that are 6 feet in diameter with ends removed. The autoclaves are addressed under the Engineering Evaluation/Cost Analysis for Scrap Metal.
C-747-B	Burial Area	Contaminated forklifts and contaminated wood pallets

The following table provides estimated quantities of material to be dispositioned:

Table C.1.2.1b Estimated Quantities of Material to be Dispositioned

Type of Material	Estimated Quantity (Tons)	Expected Characterization
Nickel Ingots	9,700	Trace Contamination, including TRU and Tc^{99}
General Scrap Materials	25,300	LLW and/or solid waste
Classified Materials	14,500	LLW
An estimated 8 tons of MLLW, 7 tons of RCRA, and 12 tons of TSCA waste is estimated.		

C.1.2.1.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.2.2 DOE Material Storage Areas

This work scope shall be considered complete following the submittal of all final characterization/inventory reports, disposition of all Priority "A", Priority "B", and 50% of Priority "C" material.

C.1.2.2.1 General Information

The DOE accepted custody of a wide range of material from USEC during the privatization of the uranium enrichment operations. These materials are stored within 160 locations throughout the site and are designated as DMSAs. The DMSAs are collectively identified as a Category 2 Nuclear Facility in accordance with 10 CFR 830 due to potential criticality concerns.

Exhibits C.1.2.2.a and C.1.2.2.b indicate the location of the DMSAs by area or building, DMSA number, estimated quantity of material within each DMSA, phase, priority, percent of characterization completed, and whether a final characterization report has been submitted to the Commonwealth of Kentucky regulators as of October 26, 2003.

An estimated 800,000 cubic feet of material is contained within the DMSAs, an estimated 500,000 cubic feet of which have already been characterized as of 10/26/03. This material consists of an estimated 1700 cubic feet of RCRA, 300 cubic feet of TSCA, 628,000 cubic feet of LLW or Solid Waste, and 170,000 cubic feet of fixed equipment that will not be dispositioned (but will be characterized) as part of this contract.

An estimated 43,000 cubic feet of solid waste from the DMSAs has been disposed of in the C-746-U landfill.

C.1.2.2.2 Work to be Performed

The contractor shall perform all activities to:

a) Complete characterization of all DMSA materials in accordance with the Characterization/Remediation Plan (BJC/PAD-186/R4).
b) Characterize all containers stored in Priority "C" DMSAs that potentially contain listed waste, in accordance with Section 66 of the Agreed Order and the Characterization/Remediation Plan.
c) Disposition all material (excluding fixed equipment such as fuse boxes, piping, light switches) contained within Priority "A", and Priority "B" DMSAs, and 50% of the

material contained within Priority "C" DMSAs, in accordance with the Characterization/Remediation Plan (BJC/PAD-186/R4). Disposition of an estimated 1900 drums of UF_4 nuclear material and legacy PCB waste stored in the cascade buildings within DMSAs is not included.

d) Manage Newly Discovered hazardous waste in accordance with the Agreed Order and the Characterization /Remediation Plan.
e) Prepare and submit characterization/inventory reports as DMSAs are characterized in accordance with the Agreed Order and the Characterization /Remediation Plan.
f) Perform all closure, partial closure, post-closure, and deferral activities, as applicable, in accordance with the Agreed Order, the FFA, applicable permits, the letter dated 11/21/03 (Murphie to Hatton), and other regulatory agreements and documents.
g) Support transfer of DMSA's to USEC following closure.
h) Submit annual revisions of the Solid Waste Management Unit (SWMU) Assessment Reports and RCRA Hazardous Waste Permit Part A for all applicable DMSAs where hazardous waste has been discovered.
i) Submit RCRA Hazardous Waste Permit Part B modifications as required.
j) Comply with all aspects of the Agreed Order DWM-31434-042.
k) Provide technical and administrative support to DOE for DMSA litigation activities as required.

C.1.2.2.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.2.3 Waste Disposition and Waste Facility Operations

This work scope shall be considered complete following the disposition of 100% of the RCRA, RCRA/TSCA, TSCA, and 40% of the LLW legacy waste identified in Table C.1.2.3.a, and all waste identified in the Site Treatment Plan (except TRU waste), and all waste not specifically generated by remediation activities that has been newly generated through 6/30/09. Operation of all waste storage facilities is an ongoing activity that will last throughout the length of the Contract.

C.1.2.3.1 General Information

A large quantity of waste and other nuclear materials has been generated and stored at the Paducah Site over its lifetime. This waste includes, but is not limited to, construction debris, sanitary waste, TSCA, HW, LLW, MLLW, TRU, and TRUM waste.

Exhibit C.1.2.3.a identifies the waste storage facilities, a brief description of each facility, and the type and quantity of waste and other nuclear materials that is currently stored within each facility. Building C-746-Q is a Category 2 Nuclear Facility in accordance with 10 CFR 830 for potential criticality concerns, and the others are radiological or standard industrial facilities.

The Paducah Site has one 60-acre RCRA Subtitle D Landfill (approximately 22 acres are permitted for disposal) that is currently operational and is designated as the C-746-U Landfill. The landfill waste acceptance criteria prohibits the disposal of classified, hazardous, or LLW. However, waste with residual radioactive material within authorized limits may be disposed in

the C-746-U landfill. The location of the landfill is outside of the security fence. Three of 22 cells within the C-746-U landfill are currently active. The landfill has a capacity to accept an estimated 1.5 million cubic meters of waste, and currently contains an estimated 30,000 cubic meters. A new on-site leachate treatment facility is under construction, and is expected to be operational by July 2004. A seismic reinvestigation of site-specific soil column effects on ground motion is being developed before construction and operation of cells 6 – 22 can be initiated.

The C-746-S Landfill was a solid waste landfill, approximately 5 acres in size, and is currently inactive. The C-746-T Landfill is also inactive, approximately 5 acres in size, and was used mainly for construction and demolition debris.

An estimated 5,100 containers have been identified that may contain listed hazardous waste. (See Agreed Order, DWM-31434-042).

C.1.2.3.2 Work to be Performed

The contractor shall perform all activities to:

a) Store, characterize, process, package, and ship 100% of the RCRA, RCRA/TSCA, TSCA, and 40% of the LLW legacy and newly generated waste and other nuclear materials to a DOE-approved storage, treatment, or disposal site, and operate the waste storage facilities identified in Exhibit C.1.2.3.a. Wastes include, but are not limited to, construction debris, sanitary waste, TSCA, HW, LLW, MLLW, TRU, and TRUM waste. Wastes and other nuclear materials must be dispositioned, processed and/or packaged to meet receiver site acceptance criteria. The contractor shall sign all manifests and RCRA land disposal restriction notifications. The approximate waste and other nuclear material inventories of each building are shown in Exhibits C.1.2.3.a.. This shall include final characterization, packaging, labeling, and final disposition of all acceptable waste from the Infrastructure Contractor, excluding sanitary waste.

   Estimated quantities of waste and other nuclear materials generated from ongoing operations include but are not limited to the following:

   1. Ten (55-gallon) drums of LLW/MLLW each month.
   2. Fifteen thousand gallons annually of rainwater from waste facilities sumps and secondary containment.
   3. Thirty cubic meters of LLW and 20 cubic meters of MLLW annually.
   4. Ten cubic meters of legacy waste annually from USEC that may contain asbestos, PCB, chromium, TCE, arsenic, or transuranics.

b) Operate and maintain the three landfills (C-746-U, C-746-S, and C-746-T) in accordance with Kentucky regulations, closure and post-closure requirements, and the operating permit, to include but not limited to, the following:

   1. Accept generated waste from the Site (including the Infrastructure Contractor) that meets the requirements of the permit.
   2. Operate and maintain the leachate collection systems at C-746-U and C-746-S. Collect, characterize, transport, and discharge an estimated 162,000 gallons of leachate from the C-746-U (150,000 gallons) and C-746-S (12,000 gallons)

landfills annually at an approved wastewater treatment facility. The leachate is currently shipped to the on-site wastewater treatment facility operated by USEC.
3. Complete seismic studies in support of C-746-U landfill evaluation along with acting as the technical lead for waste acceptance criteria modification for CERCLA waste.
4. Be named as the operator on the C-746-U landfill permit. If this work is subcontracted out, the contractor will remain named as the operator.
5. Operate the C-746-U on-site leachate treatment facility..

c) Manage all containers potentially containing listed hazardous waste (an estimated 5,100) identified in Attachment B of the Agreed Order in accordance with the Agreed Order.
d) Complete implementation of the Sampling Analysis Plan (Attachment G of the Agreed Order) for the containers that potentially contain listed hazardous waste identified in Attachment B of the Agreed Order.
e) Submit annual revisions to the Part A of the RCRA permit to include identification of additional areas identified as storing hazardous waste.
f) Submit annual revisions of the Solid Waste Management Unit (SWMU) Assessment Reports for areas where hazardous waste has been discovered.
g) Submit annual revisions of the Site Treatment Plan in accordance with the October 2, 2003, Agreed Order.
h) Perform all closure, partial closure, post-closure, and deferral activities for all non-DMSA SWMUs, as applicable, in accordance with the Agreed Order, FFA, applicable permit requirements, and other regulatory agreements and documents.
i) Disposition 100% of the RCRA, RCRA/TSCA, TSCA, and 40% of the LLW waste identified in Table C.1.2.3.a, all waste identified in the Site Treatment Plan (except TRU waste), and all waste generated by remediation activities that has been, or will be, newly generated through 6/30/09.

C.1.2.3.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.3 Facilities Disposition

The three Facilities Disposition areas are: D&D of C-410/420 Complex (C.1.3.1); Inactive Facilities (C.1.3.2); and Surveillance and Maintenance of the C-340 Complex (C.1.3.3).

C.1.3.1 D&D of C-410/420 Complex

This work scope shall be considered complete following removal and disposition of all components and items within Sectors I, II, and III of the C-410/420 Complex, and transfer of all fluorine generating equipment.

C.1.3.1.1 General Information

The C-410/420 Complex consists of a grouping of single-story and multi-story steel and transite facilities with an estimated 250,000 square feet of floor space that were constructed in the 1950's. The Complex houses process equipment and various support systems. It was used for converting uranium oxide to uranium hexafluoride through a series of reactions involving

gaseous hydrogen, hydrogen fluoride, and F_2, along with the production of fluorine to support the gaseous diffusion of uranium-235. The Complex was shutdown in 1977 and utilized for storage. The Complex is contaminated with uranium oxides, uranium hexafluoride, heavy metals, asbestos, PCBs, refrigerants, hydrogen fluoride, transuranics, and other contaminants. Waste from this facility is currently not being accepted at the C-746-U landfill.

Uranium contamination (greater than one percent by weight of uranium-235) and traces of transuranics (from reactor returns) were discovered in the Complex. The C-410/420 Complex is classified as a Category 2 Nuclear Facility in accordance with 10 CFR 830 for internal inventory and external criticality concerns.

The DOE has entered into a Memorandum of Agreement to supply the fluorine generating equipment to a private company. There are no known Nuclear Criticality Safety (NCS) items within the C-410/420 Complex; however, NCS concerns could emerge as D&D progresses. Full personal protective equipment, including respirators are required for entry into the facility.

C.1.3.1.2 Work to be Performed

The contractor shall:

a) Perform all activities necessary to remove and disposition all components and items from Sector I (Zones 20 & 64), Sector II (Zones 33-38, and 40-44), and Sector III (Zones 39, 45, and 47-54) within the C-410/420 Complex in accordance with the approved Removal Action Work Plan for C-410 (DOE/OR/07-2012&D2) and the Action Memorandum (DOE/OR/07-2002&D1Rev1). The activities include, but are not limited to, the removal of facility equipment, installed real property, utility service components, tanks, sumps, along with the removal of asbestos, LLW, and PCB contaminated items. The total volume of waste material to be removed and disposed is an estimated 4,600 cubic yards of primarily LLW. However, MLLW, asbestos, heavy metals, PCBs, and TRU waste will likely be generated. The facilities and Zones to be decontaminated, decommissioned, and dispositioned are identified within Exhibit C.1.3.1.a.
b) Perform all activities necessary for the removal, decontamination, packaging, shipping, and transfer of all remaining fluorine generating equipment, including an estimated 20 fluorine cells and associated equipment in accordance with the Memorandum of Agreement (MOA) between DOE and ToxCo dated July 16, 2002. This includes the removal of all paint that contains PCBs on all items to be transferred. Thirteen of the 20 cells have been breached and are stored in building C-752-A.
c) Perform all S&M activities associated with the C-410/420 Complex. This will include, but not be limited to, routine inspections, rodent and pest control, and minor facility repairs.

C.1.3.1.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.3.2 Inactive Facilities

This work scope shall be considered complete following disposition of all material associated with the D&D of the facilities identified in Exhibit C.1.3.2.a, site restoration, and submittal of a final Remedial Action Report.

C.1.3.2.1 General Information

Fifteen inactive facilities and associated equipment as listed in Exhibit C.1.3.2.a are to be demolished.

The facilities have been maintained to a minimal level to ensure integrity of the structure safety envelope. The facilities exist in various states of repair. The hazards of most concern are asbestos, uranium, heavy metals, and PCBs.

Two smelting furnaces are located at C-746-A West. One is a reverbatory furnace and the other is a sweat furnace.

C.1.3.2.2 Work to be Performed

The contractor shall perform all activities to:

a) Prepare all required CERCLA decision documentation for demolition of the facilities identified in Exhibit C.1.3.2.a., and assist in obtaining regulator approval.
b) Plan and conduct the facility and equipment demolition and removal in accordance with the CERCLA process for all structures listed in Exhibit C.1.3.2.a. Demolish all facilities to the slab, if applicable, or at grade components. Subgrade areas, including but not limited to basements, depressions, sumps, etc., shall be backfilled with an approved material suitable to prevent surface water accumulation. Disposal of material generated by this work will be in accordance with Section C.1.2.3.
c) Remove the smelter, slag, all associated support equipment, and the west end of building C-746-A down to the slab for disposition. Relocate all utilities as required to maintain the east side of the building operational. Seal all doors to the remaining C-746-A building that are common to the C-746-A East and C-746-A West facility. Recommend a final disposition of the remaining C-746-A West slab.
d) Perform all S&M activities associated with the facilities identified on Exhibit C.1.3.2.a until their final demolition. This will include, but not be limited to, routine inspections, rodent and pest control, facility repairs necessary to maintain the integrity of the facility, etc.
e) Disposition all material associated with the D&D of the facilities identified in Exhibit C.1.3.2.a, site restoration, and submittal of a final Remedial Action Report that is sufficient in quality such that the DOE and the can approve it, and assist in obtaining regulatory approval.

C.1.3.2.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.3.3 Surveillance and Maintenance of the C-340 Complex

Perform S&M activities through the end of the contract.

C.1.3.3.1 General Information

The C-340 Complex was previously used to convert uranium oxides to uranium metal. It has been shutdown and placed in the DOE D&D program. The complex has been undergoing routine S&M activities awaiting D&D. The C-340 Complex is classified as a radiological facility.

The C-340 Complex consists of the following facilities:

Building Number	Building Title
C-340-A	Powder Building
C-340-B	Metals Building
C-340-C	Slag Building
C-340-D	Magnesium Storage Building
C-340-E	Emergency Power for Critical Alarms

C.1.3.3.2 Work to be Performed

The contractor shall perform all activities to:

a) Perform all S&M activities associated with the C-340 Complex. This will include, but not be limited to, routine inspections, corrective maintenance, rodent and pest control, minor facility repairs, combustible removal, gross vacuuming, maintenance vacuuming, cleanup of spills/leaks, control of loose contamination and air borne particles, isolation of utilities.

C.1.3.3.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.4 Soils

The three primary Soils areas associated with the project are Onsite Soil Remediation – North/South Diversion Ditch (NSDD), Section 1 and 2 (C.1.4.1); Offsite Soil Remediation – North/South Diversion Ditch (NSDD), Section 3, 4 and 5 (C.1.4.2); and Sediment Controls (C.1.4.3).

C.1.4.1 Onsite Soil Remediation – North/South Diversion Ditch, Section 1 and 2

This work scope shall be considered complete following removal of sufficient material to meet the risk cleanup goal identified within the CERCLA documentation, and submittal of a final Response Action Completion Report.

C.1.4.1.1 General Information

The NSDD was a surface water open channel drainage for the Paducah Site. The ditch received wastewater from the C-400 building, coal pile runoff, and general site storm water runoff. Sources of storm water runoff include the steam plant (C-600), two gaseous diffusion process buildings (C-335 and C-337), a cooling tower (C-635), and electrical switchyards (C-535 and C-537). Soil and sediments within the ditch have been contaminated with radionuclides (e.g., americium, plutonium, thorium, cesium, uranium, neptunium), metals (e.g., mercury, chromium, beryllium, arsenic, lead, manganese, nickel, vanadium, etc.), RCRA listed wastes, and PCBs. Sections 1 and 2 are located within the fenced site location. The flow through these sections of

the diversion ditch has been limited by the installation of piping from C-400-L, C-616-L, and Outfall 001 Lift Stations to a new discharge area at the C-616-C inlet control structure. The Remedial Design/Remedial Action Work Plan requires the construction of a surge basin. The design for the surge basin has been completed.

C.1.4.1.2 Work to be Performed

The contractor shall perform all activities to:

a) Excavate, backfill to grade, and revegetate the surface of the NSDD area designated as Sections 1 and 2 (approximately 2,600 linear feet in length) in accordance with the CERCLA decision documents. The excavation is estimated to be to a depth of four feet and a width of 35 feet. Backfill material shall be an approved watertight clay for the first 2 feet with an approved topsoil mixture for the remaining portion of the fill to grade.
b) Plug four existing culverts at the ditch's intersection with the perimeter security fence by filling the culverts with concrete for a minimum length of 50 feet.
c) Construct a surge basin in Section 2 of the NSDD capable of retaining storm water runoff resulting from 5.7 inches of rain in a 24-hour period. An estimated 16,000 cubic yards of clean fill material is expected to be excavated as a result of this activity. Excavated clean fill material may be stockpiled on-site or re-used.
d) Dispose of all material in accordance with Section C.1.2.3.
e) Remove sufficient material to meet the requirements of the decision documents, and submit a final Remedial Action Report that is sufficient in quality such that the DOE and the regulators can approve it and assist in obtaining regulator approval.

C.1.4.1.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.4.2 Offsite Soil Remediation – North/South Diversion Ditch, Section 3, 4 and 5

This work scope shall be considered complete following submittal and approval of all CERCLA decision documents, and if required by the CERCLA decision: removal of sufficient material to meet the risk cleanup goal identified within the CERCLA documentation, and submittal of a final Response Action Completion Report.

C.1.4.2.1 General Information

Sections 3, 4, and 5 of the NSDD are a continuation of Sections 1 and 2 as described in Section C.1.4.1.1 of this contract. The project milestones have been negotiated with the regulators. The Sampling and Analysis Plan is in preparation.

C.1.4.2.2 Work to be Performed

The contractor shall perform all activities to:

a) Develop a Site Investigation/Risk Assessment Report on the North/Soth Diversion Ditch, Sections 3,4, and 5 and its sources that is sufficient in quality such that it can be approved by the DOE and the regulators and actively assist in obtaining its regulatory approval.
b) Develop a Response Action Notification of sufficient quality such that the DOE and the regulators can approve it, and actively assist in obtaining its regulatory approval.
c) Prepare all CERCLA decision documents to address Sections 3, 4 and 5 of the NSDD.

d) Plan, evaluate, and conduct the restoration of the area in accordance with the CERCLA Response Action decision documents.
e) Excavate, backfill to grade, and re-vegetate hot spots to be identified through the CERCLA process for the NSDD areas designated as Sections 3, 4 and 5. The total volume of material to be excavated is estimated not to exceed 13,000 cubic yards, an estimated 5 percent being LLW, an estimated 5 percent being RCRA waste, and the remainder being sanitary waste. Excavated clean fill material may be stockpiled on-site or re-used.
f) Disposition all generated material.
g) Remove sufficient material to meet the decision documents, and submit a Final Response Action Report that is sufficient in quality such that the DOE and the regulators can approve it, and actively assist in obtaining its regulatory approval.

C.1.4.2.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.4.3 Sediment Controls

This work scope shall be considered complete following submittal and approval of all CERCLA documents, and if required by the documents, submittal of a Certification of Operability of the sedimentation basins in accordance with the design specifications.

C.1.4.3.1 General Information

Discharges from the uranium enrichment process buildings have historically been sent to surface waters, which then drain into the Little Bayou Creek and Big Bayou Creek. This has resulted in radionuclides (primarily cesium) and PCBs being introduced into the sediments and surface water. An Engineering Evaluation/Cost Analysis has been prepared that indicates the need for two new sedimentation basins. These basins would be located at Outfalls 008 and 011. The basins shall be designed to handle retention of a 10-year storm event (i.e. 5 inches of rain in a 24-hour time period) with a design life of 30 years. An estimated 75,000 cubic yards of material needs to be excavated, of which an estimated 4,000 cubic yards will be LLW.

C.1.4.3.2 Work to be Performed

The contractor shall perform all activites to:

a) Verify the need for two new sedimentation basins.
b) Prepare CERCLA decision documentation in accordance with the CERCLA process, and assist in obtaining regulator approval.
c) Perform all activities in accordance with CERCLA decision documents, which may include planning, designing, and constructing two sedimentation basins.
d) Dispose of all waste in accordance with Section C.1.2.3. The remaining material will be stockpiled and reused on site, as needed, as clean fill.
e) Complete CERCLA documentation, including regulator approval, either showing construction of the basins is not necessary or certifying the operability of the completed sedimentation basins in accordance with the design specifications, completing this work.

C.1.4.3.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.5 Depleted Uranium Hexafluoride Cylinder Management

This work scope shall be considered complete following the turnover of all cylinder management responsibilities, documentation, and databases to UDS, and joint certification that the transfer has been successfully completed.

C.1.5.1 General Information

On June 17, 2002 DOE executed a MOA with USEC outlining respective responsibilities for cylinder management. The current contractor is responsible for management, maintenance and inspection of an estimated 38,000 mild steel cylinders containing an estimated 450,000 metric tons of DUF_6 in storage at the site. The inventory also includes a few hundred cylinders of low enriched and natural uranium.

In 2002, DOE awarded a contract to Uranium Disposition Services (UDS) to design, construct, and operate a facility for the conversion of DUF_6 to a more stable uranium compound. Construction is scheduled to begin by July 2004, and conversion operation is scheduled to begin by 2006. The October 2003 DUF_6 Cylinder Management Agreed Order with the Commonwealth of Kentucky contains specific requirements pertaining to cylinder management.

The cylinders are stored on concrete or gravel pads in regular arrays that facilitate inspection. All cylinders receive radiological and mechanical inspections on a regular basis. Inspection data are computerized and maintained in the Cylinder Inventory Database.

The DUF_6 cylinder storage facilities are Category 2 Nuclear facilities in accordance with 10 CFR 830 due to potential criticality and inventory concerns. Based on the toxicity characteristics of DUF_6, the non-radiological hazard classification is High.

C.1.5.2 Work to be Performed

The contractor shall perform all activities to:

a) Manage the Paducah cylinder inventory in accordance with the Cylinder Management Plan contained within the October 2003 DUF_6 Cylinder Management Agreed Order with the Commonwealth of Kentucky until responsibility for cylinder management is turned over to UDS.
b) Comply with all aspects of the DUF_6 Cylinder Management Agreed Order (DWM-32434-030).
c) Turnover all cylinder management responsibilities, documentation, and databases to UDS, and prepare a joint certification that the transfer has been successfully completed.

C.1.5.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.6 Onsite Disposal Cell Planning

This work scope shall be considered complete following submittal and approval of a RI/FS and all CERCLA decision documentation.

C.1.6.1 General Information

The DOE estimates a future need for disposal of approximately 3.1 million cubic yards of material (soil and building debris). Currently, the majority of remediation-generated waste is being disposed at the Nevada Test Site or Envirocare of Utah.

A number of seismic studies have been completed and submitted to the regulators. These reports do not indicate that there is Holocene faulting at the prospective CERCLA Cell locations. However, the regulators have not yet agreed with this conclusion.

C.1.6.2 Work to be Performed

The contractor shall perform all activities to:

a) Evaluate through the CERCLA process the feasibility of designing, constructing, and operating an onsite disposal cell for remediation-generated waste. This will include, but not be limited to, preparing and conducting a RI/FS that includes, but is not limited to, a screening siting study, waste generation volume/type assessment, preliminary waste acceptance criteria development, life-cycle cost analysis, and conceptual design.
b) Submit a RI/FS and evaluation that is sufficient in quality such that the DOE and the regulators can approve it, and assist in obtaining regulator approval.
c) Prepare all CERCLA decision documents, including a Record of Decision, consistent with the results of the RI/FS, for construction of an Onsite Disposal Cell.

C.1.6.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.7 Polychlorinated Biphenyls (PCBs) Activities

The cleanup and disposal of PCB spills and leaks and maintenance of PCB collection trough systems is an ongoing activity through the end of this contract.

C.1.7.1 General Information

PCBs were used extensively in the uranium enrichment process. The lube oil system that USEC currently operates contains PCBs, which migrate into the USEC support systems. These systems occasionally leak due to age, vibration, and thermal cycling. Troughs and a collection system have been installed under the areas that have a high potential to leak. There are over 16,000 PCB collection troughs (ranging from 4½ to 6 feet in length) installed inside the cascade buildings (C-331, C-333, C-335, and C-337). The cascade buildings cover approximately 6,400,000 square feet of floor space. PCBs are continuously collected and dispositioned, and maintenance of the trough system is ongoing. PCBs that leak or spill are collected, cleaned-up, sampled, and properly disposed.

C.1.7.2 Work to be Performed

The contractor shall perform all activities to:

a) Maintain the PCB collection and containment trough system.
b) Clean up, sample, and decontaminate PCB spills and leaks, sample and analyze spill sites (estimated to be 40 small spills per year), and properly disposition the PCB material.
c) Collect quarterly air quality data throughout the cascade buildings, and submit quarterly and annual reports.

C.1.7.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.8 Environmental Monitoring and Reporting

This is an ongoing activity requiring the contractor to perform environmental monitoring of on-site and off-site air, soils, and water, and to report results to DOE and regulators through the end of this contract.

C.1.8.1 General Information

In order to protect the health and safety of the onsite workforce, the public, and the environment, monitoring of both onsite and offsite air, soils, and water is continuously performed.

An environmental monitoring program has been established. Agreements with the regulators have been made on the scope of the program. It is DOE's goal to minimize the monitoring requirements through agreements with the regulators.

C.1.8.2 Work to be Performed

The contractor shall perform all activities to:

a) Monitor and maintain the structural integrity of the groundwater monitoring wells (an estimated 187). Well maintenance includes, but is not limited to, replacing broken concrete pads surrounding the wells; repairing, replacing, extending the outer protective steel casing; repairing, replacing, installing vehicle guard posts around the wells; repairing and replacing casing covers, lock hasps, and hinges on outer protective casings; drilling weep holes in the outer protective casing; and painting the outside of the outer protective casings, including well rehabilitation or replacement as required.
b) Monitor outfalls, seeps, in-stream surface water locations, and sediment monitoring locations.
c) Conduct thermoluminescent dosimeter monitoring at an estimated 40 locations, aquatic and other biological monitoring, and landfill surface water and leachate monitoring.
d) Conduct monthly inspections of C-746-K and C-404 burial ground caps, and provide corrective maintenance as required.
e) Perform daily inspections of C-400-L and C-616-L lift stations and maintain sitewide silt fences both inside and outside of the security fence.
f) Execute an estimated 100 license agreements with the Commonwealth of Kentucky Fish and Wildlife, local residents, and businesses.
g) Determine the source of toxicity within Outfall 001, and revise and implement the Toxicity Reduction Evaluation plan in accordance with the Agreed Order.

h) Perform all environmental monitoring tasks, including but not limited to sample collection, and analysis as necessary to prepare and submit reports identified in Section J, Attachment 4.1, including input from others on-site.
i) Monitor all SWMUs in accordance with the RCRA permit.

C.1.8.3 Milestones/Schedule/Reference Documents

The milestones, schedule and reference documents are listed in Exhibit C.1.0.3.

C.1.9 Project Support

The contractor shall provide project support necessary for the successful accomplishment of this contract. This is an ongoing activity through the end of the contract.

C.1.9.1 Project Management System

The contractor shall perform all activities to:

a) Develop and maintain a project management system in accordance with clause H.1, Project Control Systems and Reporting Requirements, for both the scope of work under this contract and the anticipated site environmental restoration lifecycle.
b) Ensure that LTS issues are considered in the cleanup decision-making processes. Even though the LTS activities are not included in the scope of this contract, some of the activities needed to ensure the site's successful transition to future LTS are included.
c) Assist DOE in coordination and communication regarding LTS planning and transition with all involved parties including local stakeholders and regulators.
d) Maintain a Site Life Cycle Baseline for all PBS activities associated with the site (i.e., Infrastructure, UDS, DOE directs, etc.).

C.1.9.2 Integrated Safety Management System

The contractor shall develop and maintain a single, site-wide Integrated Safety Management System (ISMS) to accomplish all work under this contract as required by Department of Energy Acquisition Regulation Clause 970.5223-1, "Integration of Environment, Safety and Health into Work Planning and Execution." The contractor shall prepare an ISMS for DOE approval and Phase I/II verification.

The ISMS program shall be subject to an annual verification review by a DOE chartered ISMS verification team.

C.1.9.3 Environment, Safety and Health Program

The contractor shall perform all activities to:

a) Conduct all activities in accordance with applicable laws, regulations, permits, agreements and Orders, and DOE Directives including, but not limited to, those listed in Section J, Attachment A and B. The contractor's ES&H program shall be operated as an integral, but visible, part of how the contractor conducts business. This includes, but not limited to: prioritizing work planning and execution; establishing clear ES&H priorities; allocating resources to address programmatic and operational considerations; collecting and analyzing samples; and correcting non-compliances and addressing all hazards for all facilities, operations, and work. The contractor

shall ensure that cost reduction efforts and efficiency efforts are fully compatible with ES&H performance.

b) Take all actions necessary to preclude serious injuries and fatalities, keep worker radiological exposures as low as reasonably achievable, and ensure environmental releases are in compliance with regulatory requirements.
c) Maintain the documented safety analysis and safety basis documents, as applicable, for all non-leased DOE facilities, including, but not limited to, C-410/420, DMSAs, Cylinder Yards, Scrap Yards, and C-746-Q. The contractor shall, as required, update and maintain all safety analysis and safety documents in accordance with the requirements of 10 CFR 830, Subpart B.
d) Adopt existing regulatory required implementation plans and processes (e.g., 10 CFR 835, Radiation Protection Plan; 10 CFR 830, Quality Assurance Implementation Plan; and Unreviewed Safety Question Process). The contractor may elect to update these plans. Updated plans shall be submitted to DOE for approval.
e) Implement a Beryllium Protection program consistent with 10 CFR 850. A study has been completed characterizing the levels of Beryllium within the site (BJC/PAD-581) and shall be considered by the contractor in development of a Beryllium protection program and in the performance of this contract.
f) Comply with the site's fire protection program. The fire protection function is currently supplied by USEC under separate arrangement with DOE.
g) Ensure adequate access to health programs/ambulatory care, and beryllium and radiation worker health surveillance programs. These services are required to assess, monitor, record data, and provide medical support for current site workers who are or may be exposed to radiological and hazardous materials. The contractor shall provide personnel radiation monitoring for its own employees and any visitors to its operations in accordance with 10 CFR 835.
h) Provide training for both their own and DOE employees as required by the Occupational Safety and Health Administration, DOE and the Department of Transportation.
i) Provide safety and health personal protective equipment (PPE) for both their own and DOE employees. The contractor shall ensure adequate calibration and maintenance of monitoring and surveying equipment.
j) Provide support to DOE and participate in the site's Emergency Management program. The contractor shall provide adequate staff to support the Emergency Operation Center efforts for its operations, and ensure adequate support is available to respond to an emergency. The Emergency Operation Center for the site is provided by USEC with specific support from DOE for DOE activities.
k) Implement an Underground Storage Tank (UST) program consistent with all State Regulations. A list of USTs is provided in Exhibit C.1.9.3.
l) Perform an environmental compliance due diligence review within 30 days after the end of the transition period. The results of due diligence shall not be the basis for a change to the target cost or a request for equitable adjustment.
m) Provide investigations and support for ES&H issues/effects resulting from the historical "work for others program", and may encounter materials that were part of a "work for others" program. Historical information associated with the "work for

others program" may include classified information. The potential implications will be discussed after award of this contract consistent with security requirements.

n) Annually provide input on the status of ES&H conditions in the non-leased areas of the Paducah site to the DOE Office of Nuclear Energy for inclusion in the subject report. The contractor is not responsible for drafting the annual report to Congress, but will provide the required input. (See Section 1701(b) of the Energy Policy Act of 1992, as amended). The contractor shall provide information in the following areas, including but not limited to: collection, analysis, and documentation of information relating to the environmental, safety, and health protection programs, activities, and compliance; status of DOE activities performed in non-leased areas of the sites; and descriptions of actions that DOE has taken to enhance safety in the non-leased portions of the sites. In addition, the contractor shall provide input, to include, but not be limited to actions, documents, responses, and information for DOE's preparation of various reports to Congress, DOE-HQ, the public, and other requesting organizations.

o) Provide non-emergency spill contamination, clean-up, and other post-emergency response activities. Spills could include, but not be limited to, diesel fuel, oils containing PCBs, and radioactive contamination.

C.1.9.4 Administration

The contractor shall provide administrative services including, but not limited to, management, public affairs, financial, legal, procurement, program management, taxes, public information, support to DOE, Citizen Advisory Board support, human resource management, and diversity commensurate to support the contractor's scope of work. The contractor shall support DOE in responding to Congressional, regulatory and other requests for documents and information including, but not limited to: Freedom of Information Act requests; Privacy Act requests; requests for former contractor employees' records; discovery requests served upon DOE and its current and former prime contractors; other requests from DOE and/or current or former DOE contractors, including their counsel, for records within the contractor's possession; and requests from investigative agencies. Such support shall include, but not be limited to, preparation for briefings, public presentations, and search, review, and reproduction of documents.

C.1.9.5 Transportation

The contractor shall be responsible for its own services including, but not limited to, transportation, traffic management, shipping/receiving, scale calibrations, vehicle and equipment maintenance and management, except as specifically referenced as being furnished by the DOE or by others on behalf of DOE in Section H clause entitled "Government Furnished Services and Items."

C.1.9.6 Records Management

The contractor shall perform all activities to:

a) Provide a records management program for records attained for or generated under the performance of this contract. This includes, but is not limited to: maintaining, storing, protecting, and dispositioning active and inactive records; retrieving records from on-site storage facilities; and supporting ongoing discovery efforts for litigation. The contractor

shall provide an electronic and hard copy of all records to the infrastructure contractor for inclusion in the site's centralized records repository.

b) Place all necessary documents in the Paducah Environmental Information Center, which is maintained by others on behalf of DOE. The current Paducah Environmental Information Center is located off-site at: 115 Memorial Drive, Barclay Center, Paducah, Kentucky.

C.1.9.7 Safeguards and Security

The contractor shall perform all activities to:

a) Comply with site requirements to ensure appropriate levels of protection against: unauthorized access; theft, diversion, loss of custody of special nuclear material; espionage; loss or theft of classified matter or Government property; and other hostile acts that may cause unacceptable adverse impacts on national security or the health and safety of DOE and contractor employees, the public, or the environment. USEC currently provides the on-site protective force.

b) Promptly prepare and submit applications for security clearances ("Q" and "L", up to secret restricted data) as required for work under this contract. The Infrastructure contractor provides the processing of the security clearance applications, and coordinates with federal security reviewers.

c) Provide an information security program commensurate with the types of information available on-site, such as but not limited to, proprietary, privacy act, official use only, classified and unclassified controlled nuclear information (UCNI).

Exhibit C.1.0.3 Milestones/Schedule/Reference Documents

Section C.1.1.1. Source Control Milestones/Schedule	
Milestone	**Date**
D1 Record of Decision	8/3/04
D1 Response Action Design Work Plan	1/30/05
D1 Response Action Design Report	7/14/05
D1 Response Action Work Plan	8/13/05
Response Action Field Start	To Be Determined
Response Action Completion	To Be Determined
The first draft (D1) of a report or work plan that is transmitted to USEPA and the Commonwealth of Kentucky for review and comment under Section XX (Review/Comment on Draft/Primary Documents) of the Paducah FFA is referred to as a D1 document.	

Section C.1.1.1. Source Control Reference Documents	
Document Number	**Title**
DOE/OR/07-1857&D2	Feasibility Study for the Groundwater Operable Unit
DOE/OR/07-1727/V1 and V2	Waste Area 6 Investigation
DOE/OR/07-1849&D2, Fiscal Year 2003	Site Management Plan
DOE/OR/07-1921&D2	Certified for Construction Design Drawings and Technical Specifications Package for the Six-Phase Heating Treatability Study at the Paducah Gaseous Diffusion Plant
DOE/OR/07-1889&D2	Treatability Study Work Plan for Six-Phase Heating, Groundwater Operable Unit
DOE/OR/07-1944&D2	Construction Quality Control Plan for the Six-Phase Heating Treatability Study at the Paducah Gaseous Diffusion Plant

C.1.1.2. Plume Containment Milestones/Schedule	
Milestone	**Date**
Submit Natural Attenuation Report	To Be Determined but no later than 9/30/09
Approval of Natural Attenuation ROD	To Be Determined but no later than 9/30/09

C.1.1.2. Plume Containment Reference Documents	
Document Number	**Title**
DOE/OR/06-1143&D4, July 1993	Record of Decision for Interim Remedial Action of the Northwest Plume
DOE/OR/06-1356&D2, June 1995	Record of Decision for Interim Remedial Action of the Northeast Plume
DOE/OR/07-1253&D4	Operations and Maintenance Plan for the Northwest Plume

C.1.1.2. Plume Containment Reference Documents	
Document Number	**Title**
DOE/OR/07-1535&D3	**Operations and Maintenance Plan for the Northeast Plume**
KY/EM-113, November 25, 1997	Evaluation of Natural Attenuation Process for trichloroethylene and Technetium-99 in the Northeast and Northwest Plumes at the Paducah Gaseous Diffusion Plant
DOE/OR/06-1201&D2	Action Memorandum for the Water Policy

C.1.1.3 Groundwater Site Assessment Milestones/Schedule	
S&T Landfill Assessment Milestone	**Date**
D1 Submittal of the Site Investigation Report	9/30/05
ROD signature	TBD
Implementation of CERCLA Documents	Within 15 months of ROD signature
Southwest Plume Assessment Milestones	**Date**
D1 Site Investigation/Risk Assessment Report	1/03/05
D1 RI/FS Burial Ground Work Plan	6/30/05
D1 Proposed Plan	7/02/05
D1 Record of Decision	1/03/06
D1 Remedial Design Work Plan	To Be Determined
D1 Remedial Design Report	To Be Determined
D1 Remedial Action Work Plan	To Be Determined
Remedial Action Field Start	To Be Determined
The first draft (D1) of a report or work plan that is transmitted to USEPA and the Commonwealth of Kentucky for review and comment under Section XX (Review/Comment on Draft/Primary Documents) of the Paducah FFA is referred to as a D1 document.	

C.1.1.3. Groundwater Site Assessment Reference Documents	
S&T Landfill Assessment Document Number	**Title**
DOE/OR/07-1857&D2	Feasibility Study for the Groundwater Operable Unit
DOE/OR/07-1849&D2 FY 2003	Site Management Plan
DOE/OR/07-2098&D2	Site Investigation Work Plan for C-746-S&T Landfill
DOE/OR/07-2027&D1	C-746-S&T Landfills Remedial Investigation Scoping Document

Southwest Plume Assessment Document Number	**Title**
DOE/OR/07 1857&D2, August 2001	Feasibility Study for Groundwater Operable Unit
DOE/OR/07-1849&D2, Fiscal Year 2003	Fiscal Year 2003 Site Management Plan

DOE/OR/07-1910&D2	Proposed Remedial Action Plan for the Groundwater Operable Unit Upper Continental Recharge System Source Zones Near C-720, C-747-C, and C-746-D
DOE/OR/07-1985&D0	Record of Decision for Remedial Action for the Groundwater Operable Unit Upper Continental Recharge System Source Zones Near C-720, C-747-C, and C-746-D
DOE/OR/07-2094&D1	Site Investigation Work Plan for the Southwest Plume
DOE/OR/06-1351&D1	Record of Decision for Interim Remedial Action at Solid Waste Management Units 2 and 3 of Waste Area Grouping 22

C.1.2.1. Scrap Metal Milestones/Schedule	
Milestone	**Schedule**
Disposition all scrap	TBD no later than 9/30/09
Submittal of Project Completion Report	TBD no later than 9/30/09

C.1.2.1. Scrap Metal Reference Documents	
Document Number	**Title**
DOE/OR/07-1965&D2	Action Memorandum for Scrap Metal Disposition
DOE/OR/07-1880&D2	Engineering Evaluation/Cost Analysis for Scrap Metal Disposition
DOE/OR/07-2013&D2	Removal Action Work Plan for Scrap Metal Disposition
Contract number: 23900-SC-RM268F	Scrap Metal Removal and Disposition Contract

C.1.2.2. DMSAs Milestones/Schedule	
Milestone	**Date**
Complete Characterization of all Priority “A” DMSAs	9/30/04
Complete Characterization of DMSA C-400-05	9/30/04
Complete Characterization of all Priority “B” DMSAs	9/30/06
Complete implementation of the Sample Analysis Plan on all containers identified as potentially containing listed hazardous waste which are stored in Priority “C” DMSAs	9/30/07
Complete Characterization of all Priority “C” DMSAs	9/30/09
Complete Disposition of all Priority “A” and Priority “B” material, and 50% of Priority “C” material	9/30/09
Submit revisions of the Solid Waste Management Unit (SWMU) Assessment Reports	By 1/15 of each year of this contract
Submit revisions to the RCRA Part A Hazardous Waste Permit	By 1/15 of each year of this contract

Submit revisions to the RCRA Part B Hazardous Waste Permit	As Required

C.1.2.2. DMSAs Reference Documents	
Document Number	**Title**
UEO-1066, as updated	Lease Agreement with DOE and United States Enrichment Corporation, Revision IV dated October 30, 2001
Enclosure to GDP 95-0018, as updated	United States Enrichment Corporation and DOE Resolution of Shared Site Issues, Revision 1 dated March 30, 1998
BJC/PAD-186/R4 BJC/PAD-186/R5	Paducah Gaseous Diffusion Plan DOE Material Storage Area Characterization/Remediation Plan
DOE/EA-1339-A	Addendum to Waste Disposition Environmental Assessment
AA/R-00-035-PAD: DMSA, Revision: 7/14/00	Authorization Agreement and Radioactive Waste Management Basis for Paducah Gaseous Diffusion Plant DOE Material Storage Areas
DWM-31434-042	Agreed Order between DOE and the Commonwealth of Kentucky, filed 10/03/03
Dated 11/21/03	Withdrawal of Closure Plans In Accordance With The Agreed Order (Murphie to Hatton)
Various	Final Inventory/Characterization Reports

C.1.2.3. Waste Disposition and Waste Facility Operations Milestones/Schedule	
Milestone	**Date**
Repackage all containers identified in the first inspection as necessary in accordance with the Container Management Plan and the Agreed Order	7/29/04
Complete implementation of the Sample Analysis Plan on all containers (~5,100) identified as potentially containing listed hazardous waste	9/30/07
Disposition all legacy mixed waste in accordance with the Site Treatment Plan except TRU waste	1/31/08
Disposition of 100% of the RCRA, RCRA/TSCA, TSCA, and 40% of the LLW legacy waste not included in the Site Treatment Plan	9/30/09
Submit revisions to the Part A of the RCRA Hazardous Waste Permit	By 1/15 of each year of this contract
Submit revisions to the Part B of the RCRA Hazardous Waste Permit	As required
Submit revisions of the Solid Waste Management Unit (SWMU) Assessment Reports	By 1/15 of each year of this contract

C.1.2.3.Waste Disposition and Waste Facility Operations Reference Documents	
Document Number	**Title**
KY8-890-008-982	Kentucky Division of Waste Management Hazardous Waste Management Permit
073-00045	C-746-U Landfill Solid Waste Permit
073-00014	C-746-S Landfill Solid Waste Permit
073-00015	C-746-T Landfill Solid Waste Permit
DOE/EA-1339	Final Environmental Assessment for Waste Disposition Activities, and associated Finding of No Significant Impact
DOE/EA-1414	Environmental Assessment on Implementation of the Authorized Limits Process for Waste Acceptance at the C-746-U Landfill
DOE/OR/07-2041	Risk and Performance Evaluation of the C-746-U Landfill
BJC/PAD-11R4	Waste Acceptance Criteria for DOE Treatment, Storage, and Disposal Units at the Paducah Gaseous Diffusion Plant
N/A	Toxic Substances Control Act Federal Facility Compliance Act
File No. DWM-30039-042	Site Treatment Plan Agreed Order, dated 9/10/97
BJC/PAD-517	Site Treatment Plan
BJC/PAD-186/R4	Paducah Gaseous Diffusion Plant DOE Material Storage Area Characterization/Remediation Plan

C.1.3.1. D&D of C-410/420 Complex Milestones	
Milestone	**Schedule**
Removal and disposition of all components and items within Sectors I, II, and III of the C-410/420 Complex	TBD no later than 9/30/09

C.1.3.1. D&D of C-410/420 Complex Reference Documents	
Document Number	**Title**
DOE/OR/07-2002&D1Rev1	Action Memorandum for C-410
DOE/OR/07-1952&D2	Engineering Evaluation/Cost Analysis for C-410
DOE/OR/07-2012&D2	Removal Action Work Plan for C-410
Site Survey # MCN-01	C-410 Cultural Resources Assessment
Agreement No.: ORO-2182	**Memorandum of Agreement between DOE and ToxCo, dated July 16, 2002**
NA	C-410 3-D Photography, dated October 2001

C.1.3.2. Inactive Facilities Milestones	
Milestone	**Schedule**
Complete decontamination and decommissioning of all identified inactive facilities	TBD no later than 9/30/09
Submittal of Final Remedial Action Report	TBD no later than 9/30/09

C.1.3.2. Inactive Facilities Reference Documents	
Document Number	**Title**
N/A	N/A

C.1.3.3. Surveillance and Maintenance of the C-340 Complex Milestones	
Milestone	**Date**
N/A	N/A

C.1.3.3. Surveillance and Maintenance of the C-340 Complex Reference Documents	
Document Number	**Title**
N/A	Toxic Substances Control Act Federal Facility Compliance Act

C.1.4.1. Onsite Soil Remediation – North/South Diversion Ditch, Section 1 and 2 Milestones/Schedule	
Milestone	**Date**
Complete (Phase I) Field Work	6/02/04
Remedial Action Phase II – Field Start	9/01/04
D1 Remedial Action Completion Report	5/16/05

C.1.4.1. Onsite Soil Remediation – North/South Diversion Ditch, Section 1 and 2 Referenced Documents	
Document Number	**Title**
DOE/OR/07-2008&D2	Remedial Design/Remedial Action Work Plan for the North/South Diversion Ditch
DOE/OR/07-1948&D2	Record of Decision for Sections 1 and 2
DOE/OR/07-1949&D2Rev1	Land Use Control Implementation Plan for Phase 1 and Phase 2

C.1.4.2. Offsite Soil Remediation – North/South Diversion Ditch, Section 3, 4 and 5 Milestones/Schedule	
Milestone	**Date**
D1 Site Investigation/Risk Assessment	5/26/05
Response Action Notification	7/22/05
D1 Engineering Evaluation/Cost Analysis	To Be Determined
D1 Record of Decision/D1 Action Memorandum	5/11/06
Record of Decision signature /Action Memorandum Signature	To Be Determined
D1 Response Action Work Plan	To Be Determined
Response Action Field Start	To Be Determined
Complete Field Work	To Be Determined
Submit Final Response Action Report	To Be Determined
The first draft (D1) of a report or work plan that is transmitted to USEPA and the Commonwealth of Kentucky for review and comment under Section XX (Review/Comment on Draft/Primary Documents) of the Paducah FFA is referred to as a D1 document.	

C.1.4.2. Offsite Soil Remediation – North/South Diversion Ditch, Section 3, 4 and 5 Reference Documents	
Document Number	**Title**
DOE/OR/07-1849&D2	Fiscal Year 2003 Site Management Plan

C.1.4.3 Sediment Controls Milestones	
Milestone	**Date**
Regulator Approval of all CERCLA Decision Documentation or Submit Operability Certification	To Be Determined but no later than 9/30/09

C.1.4.3. Sediment Controls Reference Documents	
Document Number	**Title**
KPDES #008	Kentucky Pollutant Discharge Elimination System permit 008
KPDES #011	Kentucky Pollutant Discharge Elimination System permit 011
DOE/OR/07-1958&D1/R1	Engineering Evaluation/Cost Analysis for Sitewide Sediment Controls at the Paducah Gaseous Diffusion Plant

C.1.5. Depleted Uranium Hexafluoride Cylinder Management Milestones/Schedule	
Milestone	**Date**
Transition to Uranium Disposition Services, LLC	3/05

C.1.5. Depleted Uranium Hexafluoride Cylinder Management Reference Documents	
Document Number	**Title**
Contract # DE-AC05-020R22717	**Uranium Disposition Services, LLC, Contract for construction of conversion facility and cylinder management**
DWM-32434-030	DUF6 Cylinder Management Agreed Order between DOE and the Commonwealth of Kentucky, filed 10/03/03
N/A	Memorandum of Agreement with United States Enrichment Corporation, dated 6/17/02
AA-00-031-PAD: UF6 Revision: 7/14/00	Authorization Agreement for Paducah Gaseous Diffusion Plant Uranium Hexafluoride Storage Yards C-745-C, D, F, G, K, L, M, N, P, S, and T

C.1.6. CERCLA Disposal Cell Planning Milestones/Schedule	
Milestone	**Date**
Submittal of Remedial Investigation/Feasibility Study and evaluation	To Be Determined no later than 9/30/09

Regulator Approval of all CERCLA Decision Documentation	To Be Determined no later than 9/30/09

C.1.6. CERCLA Disposal Cell Planning Reference Documents	
Document Number	**Title**
DOE/OR/07-1893&D1	Initial Assessment of Consideration of On-Site Disposal of CERCLA Waste Facility as a Potential Disposal Option
DOE/OR/071916&D1	Seismic Issues for Consideration in Site Selection and Design of a Potential On-Site CERCLA Waste Disposal Facility
DOE/OR/07-1939&D1	Identification and Screening of Candidate Sites for a Potential CERLCA Waste Disposal Facility
DOE/OR/07-2038&D1	Seismic Investigation Report for Siting of a Potential On-Site CERCLA Waste Disposal Facility

C.1.7. PCB Activities Milestones/Schedule	
Milestone	**Date**
None	None

C.1.7. PCB Activities Milestones/Schedule	
Document Number	**Title**
N/A	Toxic Substances Control Act Federal Facility Compliance Act
BJC/PAD-517	Site Treatment Plan
File No. DWM-30039-042	Site Treatment Plan Agreed Order, dated 9/10/97

C.1.8. Environmental Monitoring and Reporting Milestones/Schedule	
Milestone	**Date**
Determine the source of toxicity in Outfall 001	As required by the Agreed Order, but no later than 6/29/04
Submit a revised Toxicity Reduction Evaluation plan for Outfall 001	As required by the Agreed Order, but no later than 9/15/04
Submittal of Reports	As identified in Attachment J-4.1

C.1.8. Environmental Monitoring and Reporting Reference Documents	
Document Number	**Title**
KY0004049	Authorization to Discharge Under the Kentucky Pollutant Discharge Elimination System
073-00045	C-746-U Landfill Solid Waste Permit
073-00014	C-746-S Landfill Solid Waste Permit
073-00015	C-746-T Landfill Solid Waste Permit

C.1.8. Environmental Monitoring and Reporting Reference Documents	
Document Number	**Title**
7-98-0175, 7-99-0119, 7-01-0100, 7-01-0101, 7-01-0102, 7-01-0117, 7-01-0119, 7-01-0118, 7-01-0120, and 7-98-0175 (as examples)	**License Agreements**
BJC/PAD-285/R1	Environmental Monitoring Plan
BJC/PAD-264	Groundwater Protection Program Management Plan
DOE/OR/06-1470&D3	Record of Decision for Waste Area Groups 1 and 7
BJC/PAD-508	Toxicity Reduction Evaluation for Permit Number KY0004049 Outfall 001
BJC/PAD-327	Monitoring Well Maintenance Implementation Plan
KY8-890-008-982	Kentucky Division of Waste Management Hazardous Waste Management Permit

Exhibit C.1.2.2.a DOE Material Storage Areas Outside Buildings

DMSA Number	Estimated Quantity of Material (cubic feet)	Phase	Priority	Characterization Complete as of 10/26/03	Characterization Report Sent to State
OS-2	4,853	3	A	100%	Yes
OS-3	242	3	A	100%	Yes
OS-4	3,024	3	A	100%	Yes
OS-5	960	3	A	100%	Yes
OS-6	42,652	1	A	80%	
OS-7	11,842	1&2	A	55%	
OS-8	4,722	3	A	100%	Yes
OS-9	3,400	3	A	100%	Yes
OS-10	0	3	A	100%	Yes
OS-11	480	3	A	100%	Yes
OS-12	125	1&2	A	100%	
OS-13	385	3	A	100%	Yes
OS-14	17,232	3	A	100%	Yes
OS-15	16,071	1&2	A	0%	
OS-16	23,330	1	B	84%	
OS-17	1,187	1	A	33%	
OS-18	31,543	1	A	100%	

Phase 1: Materials have not been fully characterized. However, DMSA has been inspected and no fissionable or potentially fissionable materials have been identified.

Phase 2: Materials may or may not be fully characterized. However, DMSA is known to contain fissionable or potentially fissionable material based on inspection or characterization.

Phase 3: All materials have been fully characterized and no fissionable materials are included.

Exhibit C.1.2.2.b DOE Material Storage Areas Inside Buildings

Location by Building	DMSA Number	Estimated Quantity of Material (cubic feet)	Phase	Priority	Characterization Complete as of 10/26/03	Characterization Report Sent to State
C-310	1	68	2	C	100%	
C-310	2	567	2	C	100%	Yes
C-310	3	1,556	2	C	91%	
C-310	4	211	2	C	100%	
C-310	5	63	2	C	100%	
C-331	1	864	2	C	57%	
C-331	2	0	1	C	100%	
C-331	3	48	3	C	100%	
C-331	4	272	3	C	100%	Yes
C-331	5	2,939	2	C	100%	
C-331	6	1,611	2	C	100%	
C-331	7	23	3	C	100%	Yes
C-331	8	0	3	C	100%	
C-331	9	1,746	2	A	100%	Yes
C-331	10	2,100	3	A	100%	Yes
C-331	11	2,361	3	C	100%	Yes
C-331	12	6,000	2	C	100%	
C-331	13	2,490	2	A	100%	Yes
C-331	14	9,550	2	A	100%	Yes
C-331	15	10,878	1	A	100%	Yes
C-331	16	5,872	2	B	92%	
C-331	17	8,352	1	C	1%	
C-331	18	1,068	1	C	0%	
C-331	19	104	1	C	100%	
C-331	20	180	3	C	100%	Yes
C-331	21	1,248	3	C	71%	
C-331	22	1,097	3	C	0%	
C-331	23	0	3	C	100%	
C-331	24	65	3	C	94%	
C-333	1	7,216	2	C	0%	
C-333	2	2,336	1	C	0%	
C-333	3	3,277	2	C	0%	
C-333	4	1,884	2	C	0%	
C-333	5	2,636	2	C	0%	
C-333	6	1,904	1	C	0%	

Location by Building	DMSA Number	Estimated Quantity of Material (cubic feet)	Phase	Priority	Characterization Complete as of 10/26/03	Characterization Report Sent to State
C-333	7	1,309	1	C	0%	
C-333	8	1,294	1	C	0%	
C-333	9	288	1	C	0%	
C-333	10	0	1	C	100%	
C-333	11	919	1	C	100%	
C-333	12	2,937	1	C	0%	
C-333	13	2,099	1	C	0%	
C-333	14	688	1	C	0%	
C-333	15	1,292	1	C	0%	
C-333	16	6,476	1	C	0%	
C-333	17	0	1	C	0%	
C-333	18	16	1	C	0%	
C-333	19	760	1	C	1%	
C-333	20	3,189	2	C	95%	
C-333	21	913	2	C	100%	
C-333	22	125	2	C	88%	
C-333	23	3,242	2	C	97%	
C-333	24	1,441	1	C	0%	
C-333	25	2,636	1	C	0%	
C-333	26	1,496	1	C	0%	
C-333	27	944	1	C	0%	
C-333	28	0	1	C	100%	
C-333	29	628	1	C	0%	
C-333	30	328	1	C	0%	
C-333	31	46,627	2	A	100%	Yes
C-333	32	2,099	2	C	0%	
C-333	33	1,292	1	C	0%	
C-333	34	1,834	1	C	0%	
C-333	35	1,644	1	C	0%	
C-333	36	1,912	1	C	0%	
C-333	37	352	2	C	0%	
C-333	38	300	2	C	0%	
C-333	39	2,408	2	C	0%	
C-333	40	908	2	C	0%	
C-333	41	570	2	B	0%	
C-333	42	1,200	2	B	10%	
C-333	43	9,895	2	B	59%	
[redacted]						
C-335	1	0	1	C	100%	
C-335	2	1,320	2	C	0%	

Location by Building	DMSA Number	Estimated Quantity of Material (cubic feet)	Phase	Priority	Characterization Complete as of 10/26/03	Characterization Report Sent to State
C-335	3	6,173	2	B	0%	
C-335	4	2,420	3	A	100%	Yes
C-335	5	17,761	2	A	100%	Yes
C-335	6	924	2	C	0%	
C-335	7	1,815	2	C	0%	
C-335	8	14,536	1	C	0%	
C-335	9	4,580	3	C	0%	
C-335	10	2,420	3	C	0%	
C-335	11	205	3	C	0%	
C-335	12	10	3	C	0%	
C-337	1	872	1	C	0%	
C-337	2	1,452	1	C	0%	
C-337	3	0	2	C	100%	
C-337	4	2,364	1	C	0%	
C-337	5	3,208	2	C	0%	
C-337	6	116	1	C	85%	
C-337	7	960	3	C	100%	Yes
C-337	8	80	1	C	65%	
C-337	9	1,056	1	C	0%	
C-337	10	68	1	C	0%	
C-337	11	540	1	C	0%	
C-337	12	6,572	1	C	0%	
C-337	13	1,528	1	C	0%	
C-337	14	1,128	1	C	0%	
C-337	15	696	1	C	0%	
C-337	16	768	1	C	0%	
C-337	17	1,044	1	C	0%	
C-337	18	1,392	1	C	0%	
C-337	19	2,720	1	C	0%	
C-337	20	1,280	1	C	0%	
C-337	21	2,020	1	C	0%	
C-337	22	968	3	C	100%	Yes
C-337	23	614	2	C	0%	
C-337	24	1,056	3	C	100%	Yes
C-337	25	14,400	2	C	0%	
C-337	26	2,124	1	C	10%	
C-337	27	7,567	2	C	100%	
C-337	28	288	1	C	0%	
C-337	29	2,648	2	C	0%	

Location by Building	DMSA Number	Estimated Quantity of Material (cubic feet)	Phase	Priority	Characterization Complete as of 10/26/03	Characterization Report Sent to State
C-337	30	1,446	3	A	100%	Yes
C-337	31	640	1	C	0%	
C-337	32	1,800	3	C	100%	Yes
C-337	33	960	3	C	100%	Yes
C-337	34	0	1	C	100%	
C-337	35	182	2	C	0%	
C-337	36	2,640	3	A	100%	Yes
C-337	37	2,880	3	A	100%	Yes
C-337	38	1	2	C	0%	
C-337	39	1	2	C	0%	
C-337	40	1,668	1	C	0%	
C-337	41	4,072	2	C	0%	
C-337	42	3,836	2	B	0%	
C-337	43	1,681	2	B	0%	
C-337	44	2,015	2	B	0%	
C-337	45	2,240	2	B	0%	
C-400	1	9,000	2	A	100%	Yes
C-400	2	48,000	2	C	0%	
C-400	3	3,750	3	A	100%	Yes
C-400	4	4,500	3	A	100%	Yes
C-400	5	171,000	2	A	100%	
C-400	6	3,991	2	B	100%	
C-400	7	6,000	2	C	0%	
C-400	8	160	2	C	0%	
C-409	1	3,000	3	A	100%	Yes
C-409	2	54,400	2	A	100%	Yes
C-720	1	4,027	2	B	100%	
C-720	2	600	2	C	0%	
C-720	3	1,200	2	C	0%	
C-720	4	200	2	C	0%	

Phase 1: Materials have not been fully characterized. However, DMSA has been inspected and no fissionable or potentially fissionable materials have been identified.

Phase 2: Materials may or may not be fully characterized. However, DMSA is known to contain fissionable or potentially fissionable material based on inspection or characterization.

Phase 3: All materials have been fully characterized and no fissionable materials are included.

Exhibit C.1.2.3.a Waste Storage Facilities

Exhibit C.1.2.3.a Waste Storage Facilities (does not include Uranium Tetrafluoride inventory) updated 11/05/03							
Building Number	**Building Title**	**Square Feet**	**Bldg. Description**	**Waste Type and Quantity (Gross pounds)**			
				RCRA	**RCRA/ TSCA**	**TSCA**	**LLW**
C-301	LLW Waste Storage	2,802	Concrete pad with roof				5,600
C-331	Cascade Building		Leased to USEC for the uranium enrichment process. DOE waste is stored within these buildings.			1,299	
C-333	Cascade Building		Leased to USEC for the uranium enrichment process. DOE waste is stored within these buildings.			504	824,785
C-335	Cascade Building		Leased to USEC for the uranium enrichment process. DOE waste is stored within these buildings.			1,541	
C-337	Cascade Building		Leased to USEC for the uranium enrichment process. DOE waste is stored within these buildings.			1,765,689	
C-733	Waste Oil and Chemical Storage Facility	4,224	Covered structure enclosed by a wall on one side and fencing on the other sides. This building is RCRA permitted and holds the flammable/ignitable hazardous material. Several large tanks are here for batching/transfer operations.	20,000	5,768		4,854
C-746-A	North Warehouse	72,000	Prefabricated metal building that stores RCRA and TSCA material. A metal diking system that allows the TSCA material storage covers much of the floor. Two inactive smelters are located in this building (approximately 6000 square feet), which does not allow the entire building to be used for storage.	285,092	33,246	71,323	450,644
C-746-B	South Warehouse	72,000	Prefabricated metal building that stores TSCA and other waste. This building is not RCRA permitted			2,032,086	1,387,967
C-746-H3	Storage Area	56,150	Concrete slab for 90-day storage of RCRA material. Two clean shell structures are located on the pad for storing LLW and solid waste.	337			2,540,546
C-746-M	Waste Uranium Chip Storage	432	Prefabricated metal building. No uranium chips are currently stored here				8,438
C-746-Q	Hazardous and Low-Level Waste Storage Facility	33,165	Prefabricated metal building that stores RCRA and LLW. Material that requires nuclear criticality storage is located here. Some USEC waste is stored in the building.	87,961	112,658	6248	590,590
C-746-V	Waste Staging Area	10,000	Outside gravel pad. LLW and solid waste is temporarily stored here.				3,448,990
C-752	Waste Holding Pad	8,800	Concrete slab for outside holding of waste material.				

Exhibit C.1.2.3.a Waste Storage Facilities (does not include Uranium Tetrafluoride inventory) updated 11/05/03							
Building Number	**Building Title**	**Square Feet**	**Bldg. Description**	**Waste Type and Quantity (Gross pounds)**			
				RCRA	**RCRA/ TSCA**	**TSCA**	**LLW**
C-752-A	Waste Storage Facility	43,600	Prefabricated metal building used for operations and storage of waste. This building is permitted for RCRA storage and treatment. The southeast corner of the building has a structure for waste treatment that can be isolated from the rest of the building and hooked to air containment systems. Treatment for wastewater occurs here by activated carbon or a low capacity ultraviolet light system. The building is also used for sorting and packaging waste.	574,017	29,793	28,861	762,423
C-753-A	TSCA Storage Facility	31,600	Prefabricated metal building used for storage of TSCA waste. Sorting and packing operations also occur here.			2,136,914	13,315

Exhibit C.1.3.1.a C-410/C-420 Complex Facilities

Building Number	Title	Square Footage	Description	Comments
C-410	Original Feed Plant & East and West Expansion	123,000	Structural steel frame with walls of reinforced concrete, corrugated asbestos, steel sash, tar and slag roofing	Converted UO_3 to UO_2 then to UF_4
C-410-A	Second East Expansion of Feed Plant	6,000	Structural steel frame with concrete block walls, corrugated asbestos, steel sash, tar and slag roofing	Converted UO_3 to UO_2 then to UF_4
C-410-C	HF Neutralization Building	1,088	Steel-framed with corrugated siding	Contains a slurry tank for mixing lime or soda ash
C-410-F	HF Storage (North)	1,222	Prefabricated metal structure built over an open concrete pit	Contain two HF storage tanks
C-410-G	HF Storage (Center)	1,222	Prefabricated metal structure built over an open concrete pit	Contain two HF storage tanks
C-410-H	HF Storage (South)	1,222	Prefabricated metal structure built over an open concrete pit	Contain two HF storage tanks
C-410-I	Ash Receiver Site	2,000	Structural steel and corrugated sides	Used to store ash from the UF4 fluorination process
C-410-J	HF Storage (East)	2,024	Prefabricated metal structure built over an open concrete pit	Contain three HF storage tanks
C-411	Cell Maintenance	6,262	Steel framed with concrete blocked exterior walls	Performed maintenance work on F2 generating cells
C-420	Green Salt Plant	46,800	Four-story, structural steel and corrugated asbestos-sided	Converted UO3 to OF4. A PCB spill occurred in 1967

Exhibit C.1.3.2.a Inactive Facilities

Building Number	Title	Square Footage	Description
C-746	West End Smelter	600	Two smelting furnaces and slag. Contains contamination of nickel, aluminum, lead, and other heavy metals.
C-218	Firing Range	40,000	15 foot high berm
C-402	Lime House	1,742	Reinforced concrete building with a ground floor and partial basement
C-403	Neutralization Pit	576	18 feet deep in ground concrete tank, acid-brick lined
C-405	Contaminated Item Incinerator	600	Small building containing 2 incinerators
C-410-A	Hydrogen Holder Tank		35,200 gallon above ground steel tank
C-410-B	Sludge Lagoon	2000	7 feet deep below grade impoundment with an earth/clay floor and wire reinforced grout walls
C-603-A	Nitrogen Manifold	72	Used to support the Nitrogen System
C-603-B	Nitrogen Storage Tank	N/A	13,000 gallons
C-603-C	Nitrogen Receiver (North)	N/A	4,000 gallons
C-603-D	Nitrogen Receiver (South)	N/A	4,000 gallons
C-603-H	Nitrogen Generator Control House	128	Small metal building used to support the Nitrogen System
C-603-I	Nitrogen Generator Tower Area	340	Small metal building used to support the Nitrogen System
C-611-M	North Sanitary Water Storage Tank	N/A	173 feet high x 46 feet in diameter x 1-foot thick wall. Tank is 2 feet floor, 44 feet diameter, and 23.5 feet in depth. Concrete silo with concrete water tank on top.
C-611-N	South Sanitary Water Storage Tank		173 feet high x 46 feet in diameter x 1-foot thick wall. Tank is 2 feet floor, 44 feet diameter, and 23.5 feet in depth. Concrete silo with concrete water tank on top.

Exhibit C.1.9.3 PGDP Underground Tank Summary (updated November 13, 2003)

STATE ID #	PGDP ID #	DATE INST.	CAPACITY (gal)	CONTENTS	MATL. OF CONSTR.	SERVICE	EVIDENCE OF LEAKS?	REGULATORY STATUS	CLOSURE SUMMARY
0001	C-750-A	1955	10,000	Gasoline	Steel	Gas station	Yes - failed 1989 tightness test	Removed 3/91; **closure complete per KDWM letter of 3/25/99.**	Sampled 9/97 under Alternate Sampling Plan approved by the State - failed for PAH. Soil excavation followed by additional sampling was completed under 698 Field Task. Closure Assessment Report submitted to KDWM on 2/22/99, excavation backfilled. KDWM approved permanent closure per 3/25/99 letter.
0002	C-750-B	1955	10,000	Diesel fuel	Steel	Gas station	Yes - failed 1989 tightness test	Removed 3/91; **closure complete per KDWM letter of 3/25/99.**	Same as C-750-A.
0003	C-750-C	1957 (Est.)	1,000	Used motor oil	Steel	Vehicle maintenance shop	No	Removed 10/93; not Subtitle I - **clean closed under RCRA Subtitle C.**	RCRA closed per state correspondence of 6/20/94.
0004	C-750-D	1957	8,000	Waste oil containing PCBs	Steel (buried railroad tank car)	Vehicle maintenance shop	No	Rinsed with TCE and emptied 6/79; filled with cement 10/97; **closure complete per KDWM letter of 11/23/99.**	Closure Assessment Report and Classification Guide submitted to KDWM on 7/6/99. KDWM responded with request for clarification of two issues. DOE responded with letter on 9/21/99. KDWM approved permanent closure per 11/23/99 letter.
0005	C-746-A1	1960	4,000	Diesel fuel	Steel	Smelter	Yes - product discovered during soil sampling	Emptied 9/88; filled with cement 10/97; tank and contaminated soils removed 4/03.	Closure Assessment Report and Classification Guide submitted to KDWM on 1/5/99. Options letter to KDWM on 6/14/99. KDWM responded on 10/29/99 denying DOE's request to defer corrective action until D&D of C-746-A facility and requesting that a corrective action plan be submitted by 11/29/99. DOE submitted letter dated 11/29/99 requesting remedial action to be addressed under SSOU. KDWM sent correspondence dated 2/19/02 requesting soil contamination be addressed. DOE responded 3/20/02 and 4/30/02. KDWM letter dated 9/16/02 requests additional information on planned soil excavation. DOE responded 1/16/03. Tank and soils removed April 2003. New CAR submitted 7/15/03. KDWM letter dated 7/25/03 requested additional soil sampling. Additional sampling completed and revised CAR submitted 9/29/03.

STATE ID #	PGDP ID #	DATE INST.	CAPACITY (gal)	CONTENTS	MATL. OF CONSTR.	SERVICE	EVIDENCE OF LEAKS?	REGULATORY STATUS	CLOSURE SUMMARY
0006	C-710-B	1956 (Est.)	110	Gasoline	Steel	Emergency generator	Yes - removed from service because of a suspected leak in piping	**EXEMPT** - emptied 7/85; filled with cement 10/97; **closure complete per KDWM letter of 2/19/02.**	UST site was resampled on 9/1/99 per Alternative Sampling Plan submitted to KDWM on 7/6/99. A Closure Assessment Report, showing regulatory limits have been met, was submitted on 11/10/99. (Note: Correct closure document to submit would be a Closure Application for Petroleum Releases and Exempt Petroleum Tank Systems.) Comments received from KDWM on CAR in March 2000, DOE responded in April 2000. Correspondence from KDWM in September 2000 requested additional information, DOE responded in October 2000. More questions from KDWM in January 2001, DOE responded in February 2001. KDWM approved permanent closure per 2/19/02 letter.
0007	C-200-A	1956 (Est.)	110	Gasoline	Steel	Emergency generator	No	**EXEMPT** - grouted in 1977; **closure complete per KDWM letter of 11/23/99.**	Closure Assessment Report (CAR) and Classification Guide submitted to KDWM on 7/6/99. KDWM responded with request for clarification of two issues. DOE responded with letter on 9/21/99. KDWM approved permanent closure per 11/23/99 letter. (Note: Correct closure document to submit would have been a Closure Application for Petroleum Releases and Exempt Petroleum Tank Systems.)
0008	C-746-A2	- -	- -	- -	- -	- -	- -	- -	Was determined during WAG 15 site investigation (and documented) not to exist.
0009*	C-751-W	1992	10,000	Diesel fuel	Fiberglass-reinforced plastic	Gas station	No	In use.	Leased to and operated by USEC.
0010*	C-751-E	1992	10,000	Gasoline	Fiberglass-reinforced plastic	Gas station	No	In use.	Leased to and operated by USEC.
0011	C-611-1	1943 (Est.)	550	Gasoline	Unknown	Generator	Yes	Last used before 1975; **clean closed per KDWM letter of 12/6/96.**	Clean closed per state correspondence of 12/6/96. Tank not filled (limited access).
0012	C-611-3	1953	1,000	Gasoline/ diesel fuel	Steel	Generator	No	Last used before 1975; filled with cement 9/97; **clean closed per KDWM letter of 12/6/96.**	Clean closed per state correspondence of 12/6/96.
0013	C-611-2	- -	- -	- -	- -	- -	- -	- -	Determined not to exist - no further action required per state correspondence of 12/6/96.
0014	C-611-4	1943 (Est.)	2,000	Fuel oil	Steel	Boiler	No	Last used before 1975; filled with sand; **clean closed per KDWM letter of 12/6/96.**	Clean closed per state correspondence of 12/6/96.

STATE ID #	PGDP ID #	DATE INST.	CAPACITY (gal)	CONTENTS	MATL. OF CONSTR.	SERVICE	EVIDENCE OF LEAKS?	REGULATORY STATUS	CLOSURE SUMMARY
0015	C-611-5	Unknown	Unknown	Unknown	Steel	Generator	No	Filled with grout before 1975; **clean closed per KDWM letter of 12/6/96.**	Clean closed per state correspondence of 12/6/96.
0016	C-200-B	1967	4,000	Gasoline	Steel	Emergency generator and pump island	Yes - strong odors noted during site assessment	Filled with concrete around 1981; **closure complete per KDWM letter of 2/19/02.**	UST "rediscovered" on 4/24/98. UST site was resampled on 9/1/99 per Alternative Sampling Plan submitted to KDWM on 7/6/99. A Closure Assessment Report, showing regulatory limits have been met, was submitted on 11/10/99. Comments received from KDWM on CAR in March 2000, DOE responded in April 2000. Correspondence from KDWM in September 2000 requested additional information, DOE responded in October 2000. More questions from KDWM in January 2001, DOE responded in February 2001. KDWM approved permanent closure per 2/19/02 letter.
0017	C-745-K	1951 (Est.)	10,000	Gasoline, diesel, or waste oil	Steel	McGraw Filling Station/Truck Wash	Yes - free product released from tank opening at top	Removed from ground 2/18/02; **clean closed per KDWM letter of 12/4/02.**	UST discovered on 8/16/01 during cylinder yard demolition activities during which flange broken off top releasing small amount of oily substance. Tank and soils removed February 2002, pit soil samples taken. Closure Assessment Report submitted July 2002. KDWM requested additional info per letter dated 8/21/02, DOE responded 11/6/02. Clean closed per state correspondence of 12/4/02.
0018	C-745-K2	1951 (Est.)	1,000	Gasoline, diesel, or waste oil	Steel	McGraw Filling Station/Truck Wash	No	Removed from ground 4/23/02; **clean closed per KDWM letter of 12/4/02.**	UST discovered on 4/10/02 during cylinder yard demolition activities. Revised UST Notification and NOI to Permanently Close submitted 4/17/02. Tank removed April 2002, pit soil samples taken. Closure Assessment Report submitted July 2002. KDWM requested additional info per letter dated 8/21/02, DOE responded 11/6/02. Clean closed per state correspondence of 12/4/02.

***** These two USTs are operated by USEC and are the only USTs named in the Certificate of Notification for Fiscal Year 2002 - 2003.